

dose is a teaspoonful as often as required to produce sleep.

Urethan has appeared to me too feeble a hypnotic to be of any utility in delirium tremens, and I believe that the same remark is applicable to sulphonal and somnal.

As for nutrients, milk, meat broths, the meat extracts, and other of the protein preparations in the market, are all indicated in such quantities as the generally inflamed stomach of the inebriate will tolerate. Desiccated blood (P., D. & Co., Detroit), is a useful alimentary food product when a powerful and easily assimilated nutrient is demanded.

Lately a new treatment of delirium tremens by large doses of strychnine has been recommended. To Laton, of Rheims, we are indebted for this therapeutic novelty. Laton advised doses of five milligrammes (one twelfth of a grain) by hypodermic injection, or by mouth; these doses to be repeated twice or three times a day. Dujardin Beaumetz has repeated the hospital experiments of Laton with uniformly good success. By experiments on animals, Beaumetz has found "that there exists within certain limits a real antagonism between the action of alcohol and strychnine." Drs. Journet and Bounard also report favorable results from a series of trials in private practice of this remedy in delirium tremens, and in a number of the *Bulletin Général de Thérapeutique* for 1888, appears an article by a Brazilian physician, Ramos, "On the employment of strychnine in delirium tremens," in which he extols the effects of this remedy. He declares strychnine superior to all other remedies, morphine, chloral, paraldehyde, etc., in controlling the disordered manifestations of alcoholism. Strychnine, in his belief, "has in these cases, a substitutive action on the nerve centres, thus antagonizing the excitant action of the alcohol." Ramos would give large doses, hypodermic injections of one-twelfth of a grain, repeated every four or five hours, till the insomnia, agitation and delirium are mitigated or disappear. In some cases, he does not hesitate to push the remedy till as much as a grain is given in the twenty-four hours.

E. P. H.

#### THE ELECTRICAL RESISTANCE OF THE HUMAN BODY.

("Rivista Sperimentale di Freniatria e di Medicina Legale," vol. xv., fasc. ii.-iii., 1889, p. 226. Observations by Dr. B. Silva and B. Pescarolo.)

The following are the conclusions given by these authors, after a long and able article on this subject:

1. The electrical resistance of the human body to the

galvanic current, great in the beginning, descends at first rapidly and then more slowly, to maintain, after a variable time in different individuals and in the various diseases, a constant minimum for a given electro-motor force. The same facts are observed in the cadaver.

2. The electrical resistance of the human body diminishes with the augmentation of the electro-motor force and of the surface of the electrode, and *vice versa*, and is scarcely influenced by the pressure and the temperature of the electrode, a very little by the temperature of the body, increasing or decreasing with the temperature of it.

3. The interruption has no noteworthy influence on the electrical resistance. Commutation has a greater influence, especially when the surfaces of the two electrodes are very different, since the resistance diminishes, especially at the anode.

4. The electrical resistance of the various parts of the body varies with the thickness of the epidermis, and is in relation with the number of sweat and sebaceous glands. Where these are in great numbers, and where the skin is thicker, the resistance is greater, and *vice versa*. The manner of the behavior of the resistance to the palm of the hand and to the plantar surface of the foot is different from that in other regions; there, in fact, the resistance is great and relatively constant.

5. In fevers, in the exanthemata proper, in correspondence with the greater eruption, in the obese, in the diabetic, in the convalescent from infectious diseases, and in persons with a dry skin,—the electrical resistance is great; on the contrary, it is less, and it advances rapidly to the constant minimum, in the active person with a vigorous cutaneous circulation with much sweating; as also in Basedow's disease.

6. In hysteria the increase of resistance referred to by Vigouroux is not constant; also the difference of the resistance from the two parts of the body in hemiplegia and hemi-anæsthesia, organic as well as functional, does not always act equally. An influence of the variation of the endocranial pressure on electrical resistance cannot be admitted, and pleuritic effusions make no difference. However, in ascites the resistance of the walls of the abdomen diminishes after the development of the ascitic fluid.

7. With the antipyretics, should the temperature be lowered or not, with sweating or no sweating, in the feverish as in the healthy, we have, a diminution of electrical resistance. Bathing diminishes the electrical resistance of the feverish

alone when it diminishes the temperature. It has no evident influence on the healthy. Pilocarpine, whether it produces sweating or not, reduces the electrical tension of the body for the galvanic current. Penciling with oil of mustard has the same effect, as has also application of spray of chloroform, but in a less degree than the former. Venereal abuse, tobacco, emotion, fasting for twenty-four hours, the atmospheric state, abuse of alcohol, atropine, nitrite of amyl, faradization of the skin, have no manifest effect upon the action of electrical resistance.

8. The particular method of behavior of the resistance of the human body after the galvanic current depends upon the modification which it induces in the epidermis, from its anatomical state, which also is influenced besides, as by external agents (traumatic causes, pressure, etc.), by the manner of action of the vaso-motor system, and by the action of various remedies. Hence it is not true that the measure of the electrical resistance serves to represent the state of the vaso-motor system; neither has importance in Basedow's disease, in hysteria, in endocranial affections, etc., being a phenomenon wholly physical and depending on the vaso-motor system only secondarily.

9. The better method of making an electrical diagnosis consists in using the table of Erb, with rheostat in the secondary circuit, the electrode of equal surface (10 cm.), wet freely with water at 40° C., with the fixed electrode in the palm of the hand or in the sole of the foot, proceeding with the greatest rapidity possible. The best electrodes are made of brass or zinc with a layer of mud on its surface held in place by a piece of cloth or leather. They should be applied with a moderate pressure, and possibly always equal, to the skin during the electro-diagnostic examination.

The translator would add that this extremely interesting communication, instituting as it does a line of investigation which should be pushed much farther, should be read *in extenso*. The experimentations and observations, which precede and elaborate the ideas given in the conclusions which have been translated, are worthy of careful attention.

G. P.

#### THE MUSICAL SENSE IN IDIOTS.

The *Annales Médico-Psychologiques*, January, 1890, contains some interesting references to this subject. Esquirol called attention to the fact that even idiots without